Amendments to the claims

This listing of claims will replace all prior versions and listing of claims in the applications:

Listing of claims

Claim 1 (currently amended): A method for inducing random mutation into a nucleic acid sequence comprising the steps of:

providing a nucleic acid sequence for use as DNA template:

submitting said DNA template to polymerization reaction with at least one DNA polymerase selected from the group consisting of a *Thermus aquaticus* DNA polymerase and a *Thermococcus litoralis* DNA polymerase mutant, in presence of 1-propanol in a concentration of between 0.1% to ~~15~~8%.

Claim 2 (previously amended): The method of claim 1, wherein said random mutation is a transversion, an insertion, a transition, or a deletion of at least one nucleotide.

Claim 3 (original): The method of claim 1, wherein said polymerization reaction is a polymerase chain reaction.

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (canceled)

Claim 7 (canceled): The method of claim 1, wherein a mutated nucleic acid sequence is obtained, said mutated nucleic acid sequence encoding for a biologically active protein.

Claim 8 (canceled)

Claim 9 (canceled)

Claim 10 (previously amended): The method of claim 1, wherein said polymerization reaction is performed with a composition containing 1-propanol and nucleotides A, T, G, and C under conditions that allow for the induction of said random mutation.

Claim 11 (withdrawn): A method for preparing a library of mutated recombinant nucleic acid sequence comprising the steps of:

providing a nucleic acid sequence for use as DNA template:

submitting said DNA template to polymerization with at least one DNA polymerase in presence of alcohol in concentration sufficient to lower the fidelity of said DNA polymerase and causing mutagenesis during said polymerization.

Claim 12 (withdrawn): The method of claim 11, wherein said DNA polymerase is a thermostable polymerase.

Claim 13 (withdrawn): The method of claim 11, wherein said protein analogs are biologically active protein analogs.

Claim 14 (withdrawn): A method for producing a library of protein analogs comprising the steps of:

preparing a library of expression vectors, each expression vector comprising a mutated nucleic acid sequence prepared with the method of claim 1, operably linked to a promoter inducing transcription of said mutated nucleic acid sequence;

allowing said expression vectors of step a) to produce a corresponding protein analogs.

Claim 15 (withdrawn): Use of an alcohol in the preparation of a polymerization composition for inducing mutations in a DNA sequence.

Claim 16 (withdrawn): A polymerization composition for inducing mutations in a DNA fragment comprising a DNA polymerase and a sufficient amount of at least one alcohol for destabilizing said DNA polymerase during a process of polymerization.

Claim 17 (withdrawn): A method for inducing mutations in a DNA fragment comprising adding alcohol in a polymerization reaction of a DNA template.

Claim 18 (new): The method of claim 1, wherein said polymerase has an error frequency rate of at least 2 X 10^{-6} mutation per base pair for each polymerization cycle in presence of said propanol.

Claim 19 (new): The method of claim 1, wherein said polymerase has an error frequency rate of at least 4 X 10^{-6} mutation per base pair for each polymerization cycle in presence of said propanol.

Claim 20 (new): The method of claim 1, wherein said polymerase has an error frequency rate of at least 6 X 10^{-6} mutation per base pair for each polymerization cycle in presence of said propanol.

Claim 21 (new): The method of claim 1, wherein the DNA template is of between 50 and 50 000 base pair in length.